

Remarks

Claims 1-6, 8-14, 16-23, and 25-30 were pending in the subject application. By this Amendment, Applicants have amended claims 1, 6, 9 and 14 and added new claims 31-33. Support for the amendments and new claims can be found throughout the subject specification and in the claims as originally filed. Entry and consideration of the amendments presented herein is respectfully requested. Accordingly, claims 1-6, 8-14, 16-23, and 25-33 are currently before the Examiner. Favorable consideration of the pending claims is respectfully requested.

Prior to the issuance of another Office Action in this matter, Applicants respectfully request the courtesy of an interview to discuss this application. The Examiner is requested to contact the undersigned to schedule a teleconference at the Examiner's convenience.

Applicants gratefully acknowledge the Examiner's withdrawal of the rejections under 35 U.S.C. § 112, second paragraph, and 35 U.S.C. § 103(a).

Claims 6 and 14 are objected to because of informalities due to the claims making reference to a table. By this Amendment, any references to a table in claims 6 and 14 have been removed.

Claims 1-6, 8-14, 16-18, 21-22 and 25-30 are rejected under 35 U.S.C. § 103(a) as obvious over Arao *et al.* (1999) in view of Wick *et al.* (2003) and Peyton *et al.* (U.S. Patent No. 5,641,642). The Office Action indicates that Arao *et al.* "teaches contacting a community at a soil site with ¹³C labeled acetate . . . [but] does not teach a method of contacting the microbial community in ground water with a sterile solid support that has be loaded with the ¹³C labeled acetate (step a) or incubating the solid support at the site for a period of time to establish a biofilm." The Office Action further indicates that Wick *et al.* "teaches that PLFA analysis can be performed on water samples to determine the bioavailability of particular growth substances (abstract) [and teaches that] these profiles of PLFA obtained from water samples indicate changes in the microbial community of the water" (page 672, 2nd column, 1st paragraph). Finally, the Office Action indicates that Peyton *et al.* "teaches a device which permits biofilm forming microorganism to adhere to packing material (*e.g.*, solid support) in order to analyze the microorganisms at groundwater and subsurface sites."

In response, Applicants assert that Arao *et al.* does not teach contacting a community "at a soil site." Arao *et al.* teach that soil is removed from the site, sieved, stored at 4 degrees Celsius, and conditioned for 7 days at room temperature before ultimately being brought into contact with ¹³C

acetate (apparently in a laboratory setting; see page 1016, *Incubation procedure*). Arao *et al.* thus does not teach that a method adapted for *in situ* use “at a soil site” or any other type of non-laboratory site. As such, Arao fails to teach many, if not all, of the limitations of the claimed method. As the Patent Office is aware, all the claim limitations must be taught or suggested by the prior art in order to establish the *prima facie* obviousness of a claimed invention (*CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) citing *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974)).

With regard to Wick *et al.*, Applicants have been unable to identify any teaching that relates to “water samples”. Applicants note that the cited journal article appears to encompass pages 612-616 of the journal, but the Examiner appears to direct Applicants’ attention especially to page 672. The abstract at page 612 recites “poorly water-soluble substrates” but does not indicate that the studied mycobacteria were in any way related to a “water sample”. Indeed, at page 612, second column, last five lines, it is indicated that VM552 was isolated from soil; there is no indication of how LB501T or LB307T were isolated. Applicants further note that Wick *et al.* fail to remedy the defects noted, above, with respect to the teachings of Arao *et al.*

With regard to Peyton *et al.*, Applicants note that the purpose stated therein is to “take a census of microbial growth” and that “[the census] must be accurately known in order to provide optimal nutrients for growth”. Peyton *et al.* indicate that the census precedes introducing any excess nutrients to stimulate growth. See column 1, lines 20-29. One of skill in the art would understand that introducing excess nutrients on the sampler *during* the census would tend to produce a profound localized effect on the size and/or composition of the microbial community that the census seeks to measure, and would thus render the census inaccurate; however, the claimed invention requires that the solid support be loaded or coated with an isotope enriched substrate. One of ordinary skill would understand that this requirement of the claimed invention is thus incompatible with the purpose of Peyton *et al.* As the Patent Office is aware, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Thus, one of ordinary skill in the art would not have been motivated to utilize the sampler of Peyton *et al.* for the purposes urged in the Office Action.

In light of each of the deficiencies set forth above, Applicants respectfully assert that the claimed invention is not obvious over the cited references and that a *prima facie* case of obviousness has not been established for the claimed invention. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

Claims 19 and 23 are rejected under 35 U.S.C. § 103(a) as obvious over Arao *et al.* (1999) in view of Wick *et al.* (2003) and Peyton *et al.* (U.S. Patent No. 5,641,642) and in further view of Alexandrino *et al.* (2001). As noted above, Arao *et al.* does not teach that a method adapted for *in situ* use “at a soil site” or any other type of non-laboratory site and Applicants have been unable to identify any teaching in Wick *et al.* that relates to “water samples”. Additionally, Applicants note that the purpose stated in Peyton *et al.* is to “take a census of microbial growth” and that “[the census] must be accurately known in order to provide optimal nutrients for growth”. Peyton *et al.* indicate that the census precedes introducing any excess nutrients to stimulate growth (*see* column 1, lines 20-29) and one of skill in the art would understand that introducing excess nutrients on the sampler *during* the census would tend to produce a profound localized effect on the size and/or composition of the microbial community that the census seeks to measure, thus rendering the census inaccurate. As also noted above, the claimed invention requires that the solid support be loaded or coated with an isotope enriched substrate. One of ordinary skill would understand that this requirement of the claimed invention is thus incompatible with the purpose of Peyton *et al.* and, as the Patent Office is aware, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. Finally, while Alexandrino *et al.* may perhaps teach the use of ²H, Alexandrino *et al.* cannot cure the other deficiencies of Arao *et al.*, Wick *et al.*, and Peyton *et al.* as set forth above. Applicants thus respectfully assert that the claimed invention is not obvious over the cited references. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

Claims 20 and 23 are rejected under 35 U.S.C. § 103(a) as obvious over Arao *et al.* (1999) in view of Wick *et al.* (2003) and Peyton *et al.* (U.S. Patent No. 5,641,642) and in further view of Kharlamenko *et al.* (2001). As noted above, Arao *et al.* does not teach that a method adapted for *in situ* use “at a soil site” or any other type of non-laboratory site and Applicants have been unable to

identify any teaching in Wick *et al.* that relates to “water samples”. Additionally, Applicants note that the purpose stated in Peyton *et al.* is to “take a census of microbial growth” and that “[the census] must be accurately known in order to provide optimal nutrients for growth”. Peyton *et al.* indicate that the census precedes introducing any excess nutrients to stimulate growth (*see* column 1, lines 20-29) and one of skill in the art would understand that introducing excess nutrients on the sampler *during* the census would tend to produce a profound localized effect on the size and/or composition of the microbial community that the census seeks to measure, thus rendering the census inaccurate. As also noted above, the claimed invention requires that the solid support be loaded or coated with an isotope enriched substrate. One of ordinary skill would understand that this requirement of the claimed invention is thus incompatible with the purpose of Peyton *et al.* and, as the Patent Office is aware, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. Finally, while Kharlamenko *et al.* may perhaps teach the use of ³⁴S, Kharlamenko *et al.* cannot cure the other deficiencies of Arao *et al.*, Wick *et al.*, and Peyton *et al.* as set forth above. Applicants thus respectfully assert that the claimed invention is not obvious over the cited references. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

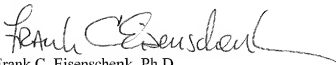
It should be understood that the amendments presented herein have been made solely to expedite prosecution of the subject application to completion and should not be construed as an indication of Applicants’ agreement with or acquiescence in the Examiner’s position. Applicants expressly reserve the right to pursue the invention(s) disclosed in the subject application, including any subject matter canceled or not pursued during prosecution of the subject application, in a related application.

In view of the foregoing remarks and amendments to the claims, Applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

Applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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